IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method for processing speech data, comprising:

framing the speech data;

determining a presence of impulsive distortion in the speech data from root mean square (RMS) and zero crossing rate (ZCR) values of the speech data, wherein a ZCR value indicates a rate at which a speech signal switches across its mean value in a frame.

2. (Currently Amended) The method of claim 1, ~~further comprising~~wherein framing the speech data comprises overlapping frames such that a set of speech data is allocated to more than one frame.

3. (Original) The method of claim 1, wherein determining the presence of impulsive distortion comprises identifying a low ZCR value and a high RMS value.

4. (Original) The method of claim 1, wherein determining the presence of impulsive distortion comprises identifying a high ZCR value and a medium to high RMS value.

5. (Currently Amended) The method of claim 1~~2~~, wherein the RMS value is computed for a frame of the speech data and indicates a strength of a speech signal in the frame.

6. (Canceled)

7. (Original) The method of claim 1, further comprising determining the presence of impulsive distortion in the speech data from a sample energy value of a speech sample from the speech data.

8. (Original) The method of claim 1, further comprising performing a perceptual speech quality measurement on the speech data.

9. (Currently Amended) An automated method for processing speech data, comprising:

framing the speech data by overlapping frames such that a set of speech data is allocated to more than one frame;

performing speech quality measurement on the speech data; and

determining a presence of impulsive distortion in the speech data.

10. (Original) The method of claim 9, wherein performing the speech quality measurement on the speech data comprises:

performing level alignment and filtering;

performing time alignment;

performing auditory processing;

performing disturbance processing; and

performing cognitive modeling.

11. (Original) The method of claim 9, wherein determining the presence of impulse distortion in the speech data comprises determining a sample energy value of a speech sample.

12. (Original) The method of claim 11, wherein determining the presence of impulse distortion in the speech data further comprises comparing the sample energy value of the speech sample with sample energy values of neighboring speech samples to determine whether there is a difference greater than a predetermined threshold value.

13. (Original) The method of claim 11, wherein determining the sample energy value of the speech sample comprises performing a Teager energy operator.

14. (Original) The method of claim 9, wherein determining the presence of impulse distortion in the speech data comprises:

determining if a difference in a root mean square (RMS) value for a frame k and a RMS value for a frame k-2 is greater than a first predetermined value and a difference in a RMS value for the frame k and a RMS value for a frame k+2 is more than a second predetermined value;

determining if a difference in RMS values for frames k-4 and k-2 and a difference in RMS values for frames k+4 and k+2 are less than a third predetermined value.

15. (Original) The method of claim 9, wherein determining the presence of impulse distortion in the speech data comprises determining if a root mean square (RMS) value for frames k-4, k-2, k, k+2, or k+4 is greater than a predetermined value.

16. (Original) The method of claim 9, wherein determining the presence of impulsive distortion in the speech data comprises determining root mean square (RMS) and zero crossing rate (ZCR) values of the speech data.

17. (Canceled)

18. (Original) The method of claim 16, further comprising identifying a low ZCR value and a high RMS value.

19. (Original) The method of claim 16, further comprising identifying a high ZCR value and a medium to high RMS value.

20. (Original) The method of claim 16, wherein the RMS value is computed for a frame of the speech data and indicates a strength of a speech signal in the frame.

21. (Original) The method of claim 16, wherein the ZCR value is computed for a frame of the speech data and indicates a rate at which a speech signal switches across its mean value in the frame.

22. (Currently Amended) An article of manufacture comprising a machine accessible medium including sequences of instructions, the sequences of instructions including instructions which when executed causes the machine to perform:

determining a presence of impulsive distortion in speech data from root mean square (RMS) and zero crossing rate (ZCR) values of the speech data, wherein speech signals have low ZCR values.

23. (Original) The article of manufacture of Claim 22, further comprising sequences of instructions including instructions which when executed performs framing the speech data

24. (Original) The article of manufacturer of claim 22, wherein determining the presence of impulsive distortion comprises identifying a low ZCR value and a high RMS value.

25. (Original) The article of manufacturer of claim 22, wherein determining the presence of impulsive distortion comprises identifying a high ZCR value and a medium to high RMS value.

26. (Original) The article of manufacture of claim 22, further comprising sequences of instructions including instructions which when executed performs determining the presence of impulsive distortion in the speech data from a sample energy value of a speech sample from the speech data.

27. (Currently Amended) An impulsive distortion detection unit, comprising:

a root mean square (RMS) computation unit to generate a RMS value for a frame of speech data;

a zero crossing (ZCR) computation unit to generate a ZCR value for the frame of speech data, wherein the ZCR value indicates a rate at which a speech signal switches across its mean value in the frame; and

a spike detection unit to determine a presence of impulsive distortion in the frame in response to the RMS value and the ZCR value.

28. (Original) The impulsive distortion detection unit of claim 27, wherein the spike detection unit determines the presence of the impulsive distortion in the frame by identifying a low ZCR value and a high RMS value.

29. (Original) The impulsive distortion detection unit of claim 27, wherein the spike detection unit determines the presence of the impulsive distortion in the frame by identifying a high ZCR value and a medium to high RMS value.

30. (Currently Amended) The impulsive distortion detection unit of claim 27, further comprising a framing unit to generate frames of speech data from speech data by overlapping frames such that a set of speech data is allocated to more than one frame.

31. (Original) The impulsive distortion detection unit of claim 27, further comprising an energy computation unit to generate a sample energy value of a speech sample.

32. (Original) The impulsive distortion detection unit of claim 31, wherein the spike detection unit determines a presence of impulsive distortion in the speech sample in response to the sample energy value and the sample energy values of speech samples neighboring the speech sample.

33. (New) The method of Claim 1, wherein speech signals have lower ZCR values.

34. (New) The article of manufacture of Claim 22, wherein the ZCR value indicates a rate at which a speech signal switches across its mean value in the frame.